

HANDS-ON SCIENCE ACTIVELY APPROACHING SCIENCE EDUCATION



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Universidade do Minho, Departamento de Física
PORTUGAL



Back in 2003 the Hands-on Science Network was established as an EU Socrates/Comenius 3 project.

Our aim was to contribute to the generalization innovation and improvement of Science & Technology Education at basic vocational training and secondary schools by hands-on experimental investigative practice in the classroom

... bringing hands-on active learning of Science into the classroom and into the soul and spirit of the School...



**“We learn how to do by doing the things we are
learning to do”**

(Aristotle)



**The main goal of the Hands-on Science network is to
promote hands-on investigative experiments based
learning of Science**

**improving
Science Education
and
Scientific Literacy**

Opening Minds, Discovering the Future



**broad open understanding of the meaning
and importance of Science**

open to all pedagogical approaches

that may contribute to the *effective* implementation of a sound widespread

Scientific Literacy and Science Education



**Formal, informal and non-formal education
from the kindergarten to adult and lifelong learning**



Educating for Science and through Science



Critical reasoning and Observation

Method

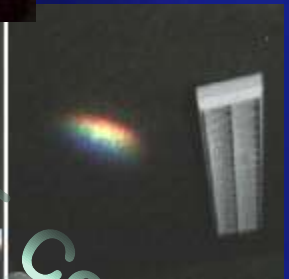
Responsibility

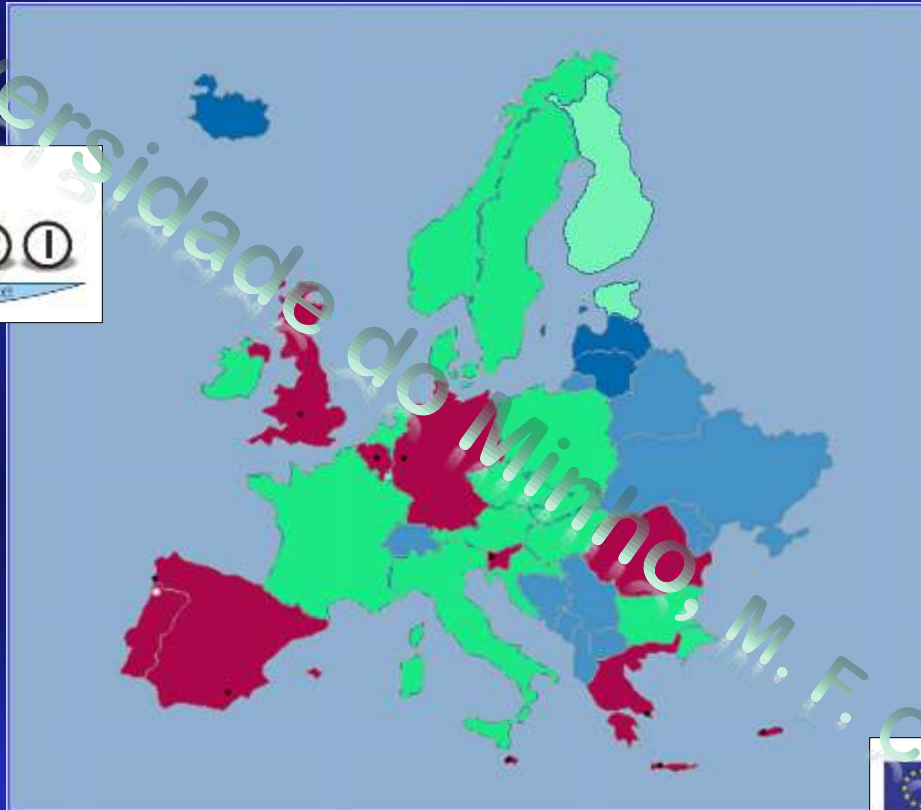
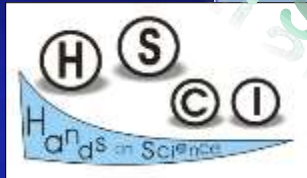
Active commitment

Self confidence



Universidade do Minho





Workshops/Thematic conferences

(“The Access of Women to Science” in Cologne, June 2004, “The challenges of EU enlargement on Science Literacy and Development” in Malta January 2005, “Scientific Literacy and LifeLong Learning”, Bucharest, May 2006)

Comenius Contact Seminars

Training courses for school teacher

(Experiments in the classroom, Hands-on Optics, School’ Robotics, Hands-on Science and Computer Simulations)

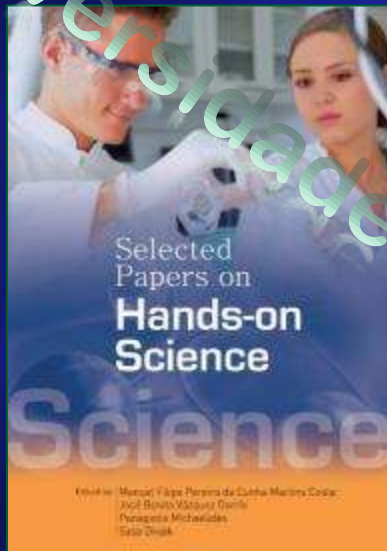
Contest “IDEAS FOR SCIENCE FAIRS”

Science Fairs

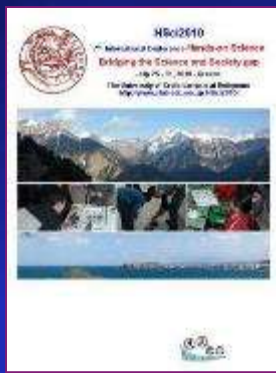
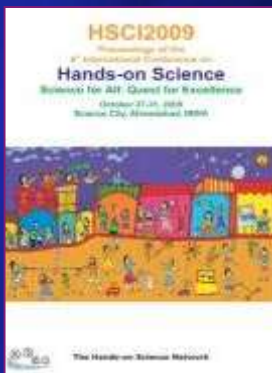
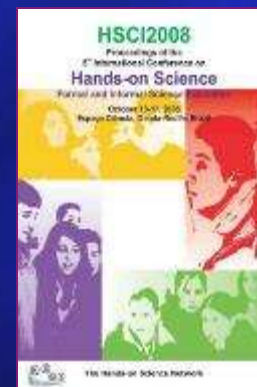
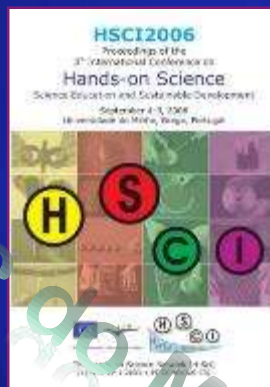
Robotics Festivals

Comenius Grundtvig FP7 and TEMPUS projects

Lectures and demonstrations



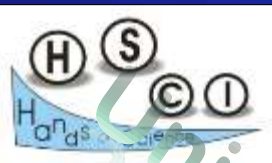
HSCI conferences



Eleven HSCI conferences

- HSCI2004: <http://www.hsci.info/hsci2004/>
- HSCI2005: <http://www.clab.edc.uoc.gr/2nd/>
- HSCI2006: <http://www.hsci.info/hsci2006/index.html>
- HSCI2007: <http://www.hsci.info/hsci2007.html>
- HSCI2008: <http://www.hsci.info/HSCI2008/hsci2008.html>
- HSCI2009: <http://www.hsci.info/HSCI2009PROCEEDINGS.pdf>
- HSCI2010: <http://www.clab.edc.uoc.gr/hsci2010/>
- HSCI2011: http://colos.fri.uni-lj.si/mptl_hsci/
- HSCI2012: <http://www.hsci2012.org>
- HSCI2013: <http://www.hsci2013.info>
- HSCI2014: <http://www.hsci2014.info>





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 Pakistán, Suiza, Tailandia, Hungría
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mfcosta@fisica.uminho.pt

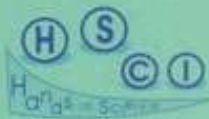
bvazquez@uvigo.es

Proceedings of the
1st International Conference on
Hands on Science

HSci2004

Teaching and Learning Science
in the XXI Century

5th - 9th July 2004
Ljubljana, Slovenia



Co-funded by the European Union
Project no. 100001-CP-1-2000-1-PT-000000-0-0

HSci2005

2nd International Conference
Hands-on Science
Science in a Changing Education

July 13 - 16, 2005 - Greece
The University of Crete campus at Rethymno
<http://www.ctsh.edu.gr/2nd/>



Education and Culture

Project no. 10157-CP-1-2003-1-PT-COMENIUS-CS
<http://www.hsci.info/> - Hands-on Science (H-Sci)



HSCI2006

Proceedings of the
3rd International Conference on

Hands-on Science

Science Education and Sustainable Development

September 4-9, 2006
Universidade do Minho, Braga, Portugal



European Commission - Education and Culture



The Hands-on Science Network [H-Sci]
(110157-CP-1-2003-1-PT-COMENIUS-C3)

HSCI2007

Proceedings of the
4th International Conference on

Hands-on Science

Development, Diversity and Inclusion in Science Education

July 23-27, 2007
Universidade dos Açores, Ponta Delgada, Portugal



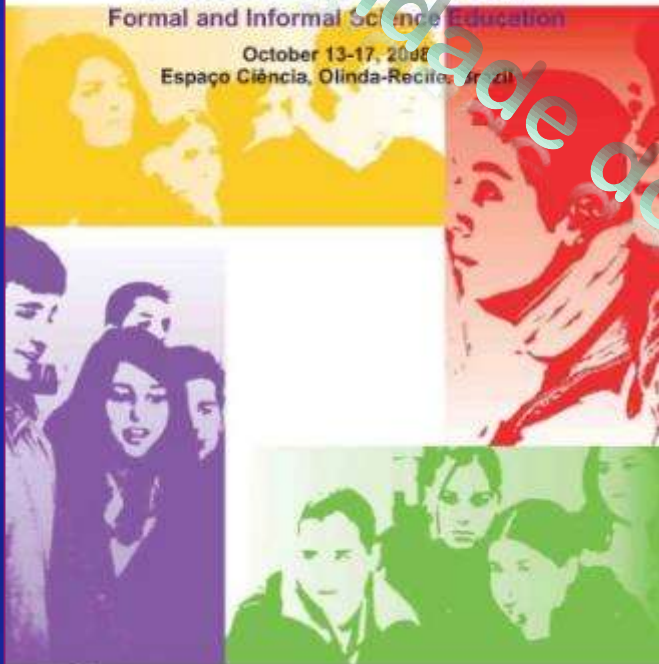
The Hands-on Science Network

HSCI2008

Proceedings of the
5th International Conference on
Hands-on Science

Formal and Informal Science Education

October 13-17, 2008
Espaço Ciência, Olinda-Recife, Brazil



The Hands-on Science Network

HSCI2009

Proceedings of the
6th International Conference on
Hands-on Science
Science for All: Quest for Excellence

October 27-31, 2009
Science City, Ahmedabad, INDIA



The Hands-on Science Network



HSci2010

7th International Conference **Hands-on Science**

Bridging the Science and Society gap

July 25 - 31, 2010 - Greece

The University of Crete campus at Rethymno
<http://www.hands-on-science.gr/HSci2010/>



HSCI2011

Proceedings of the
8th International Conference on

Hands-on Science

Focus on multimedia

(Jointly co-organised with MPTL'16 - Workshop on
Multimedia in Physics Teaching and Learning)

September 15 to 17, 2011

University of Ljubljana, SLOVENIA



The Hands-on Science Network

Our conferences

HSCI2012
Proceedings of the
9th International Conference on
Hands-on Science
Science Education, Environment and Society;
Reconnecting Society with Nature through
Hands-on Science
17-21 October 2012
Akdeniz University, Antalya, TURKEY



 The Hands-on Science Network

HSCI2013
Proceedings of the
10th International Conference on
Hands-on Science
Educating for Science and through Science
1st-5th July 2013
Pavol Jozef Šafárik University
Košice, Slovakia



 The Hands-on Science Network

Obrigado



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Manuel Filipe P. C. M. Costa, 2015